Arnica lanceolata

Status

Federal status: G3, N2, Regional Forester Sensitive
NH state status: S1, Threatened
ME state status: S2, Threatened

A global ranking of G3 indicates that this species is vulnerable. It has declined in New Hampshire, Maine, the WMNF, and Vermont. Many of the populations in Quebec, where the species is most abundant, are small and scattered, making it likely that while there are approximately 50 extant occurrences, the species has declined within its range.

The expert panel indicated that the current outcome is B-C for both the region and WMNF. Trail impact in the Presidentials is not significant, though it may be much greater outside of the Presidentials. The outcome in 20 years is B-C. It is expected that recreation impacts will increase, but so will public awareness, which may mitigate recreation impacts. Winter campers may affect snowbank areas near the huts, where most of the impacts are expected. People going to the Alpine Garden or Tuckerman's Ravine tend to go off the trail. If off-trail hiking prohibitions are not enforced, and specific sites are not protected, the outcome will tend toward C.

Distribution

Within North America, *Arnica lanceolata* subsp. *lanceolata* (Maine, New Hampshire, New York, Quebec, and New Brunswick) is disjunct from the western subspecies, *Arnica lanceolata* subsp. *amplexicaulis* (California north to Alaska, to Nevada, Utah, Idaho, Montana, and Alberta). The New Hampshire populations are disjunct from the Maine and eastern Canadian populations. At least 75% of the occurrences in New Hampshire are in the WMNF. In Maine, the WMNF is south of this species' range.

There are three extant occurrences on the WMNF, all of them around Mt. Washington. One occurrence consisted of 30 clumps along an alpine stream in 1994, the first time this occurrence was seen. Another occurrence consisted of 19 blooming plants in 1999. In 1993, more than 100 stems were found, but only mature plants were counted. The count was not exact and did not specify how many individual (genetically different) plants were present. There was no specific information available for the third extant occurrence. More recently, 50-100 plants were found at each of four locations near Huntington's Ravine, but it has not yet been verified if these are the same sites as noted above or were new documented occurrences. Historically, two additional occurrences were known on the WMNF, one on Mt. Washington and one near the Swift River in Albany.

Habitat

Arnica lanceolata subsp. *lanceolata* does not use forested habitats and is restricted to areas with constantly available moisture. At low elevations, it grows on rocky riverbanks, gravel bars, beaches, and alluvial flats of rivers and streams. At higher elevations it grows on hornblende schist in gullies, on perpetually wet cliffs, and on headwalls of ravines, and in subalpine and alpine meadows.

In the WMNF, it is currently only known from alpine habitats. It frequently grows along riverside seeps and occurs in most components of the snowbank/wet ravine system identified, including broad wet meadows and wet ravines. Species of the snowbank/wet ravine system need a certain amount of moisture throughout the growing season, which is provided by late snowmelt in snowbanks or ravine habitat conditions.

Limiting Factors

Two historic occurrences on the WMNF were extirpated due to hiking impacts. Trampling by hikers, winter camping, and spring recreational use of habitat are key threats to this species.

Anything that would change local hydrology is a concern due to habitat loss and possible population effects. It could also be impacted by erosion where it grows on outcrops or along riverbanks.

Viability concern

This species has declined in New Hampshire, Maine, the WMNF, and Vermont. Historic records from each state also demonstrate the decline in northern New England, though recently discovered occurrences may or may not have existed historically. Within North America, this species has probably declined. Many of the populations in Quebec (where the species is most abundant) and elsewhere are small and scattered, making it likely that while there are approximately 50 extant occurrences, the species has declined within its range. A global ranking of G3 indicates that this species is vulnerable. The WMNF contains at least 75% of the New Hampshire populations.

Management activities that might affect populations or viability

Hiking traffic (trampling) and winter camping may directly affect individuals. Trail construction, reconstruction, or maintenance that changes local hydrology around occurrences could indirectly affect individuals.

References

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